AMENDMENTS TO THE CLAIMS

Claims 1, 2, 5, 9, 10, 13, 16, 17 are currently being amended. No claims are currently being cancelled. New claims 25-31 are being added. All pending claims are reproduced below, including those that remain unchanged.

1.   (Currently Amended) A system comprising:

a noise shaper configured to receive an input audio signal <u>including a plurality of samples</u> and perform a noise shaping process including re-quantizing the input audio signal to produce a processed audio signal and shifting quantization noise in the processed audio signal out of an audio band;

a detector coupled to the noise shaper and configured to detect clipping of the input audio signal in the noise shaper <u>when a value of a sample of the input audio signal is outside a specified range of values, and not detect clipping when a value of a sample of the input audio signal is within the specified range of values</u>;

a signal processor ~~coupled~~ <u>configured</u> to receive a feedback signal <u>indicative of whether clipping is detected by</u> ~~from~~ the detector;

wherein the signal processor is configured to modify the input audio signal in response to the feedback signal received from the detector, wherein the modification of the input audio signal is a function of the detected clipping.

2.   (Currently Amended) The system of claim 1, wherein modification of the input audio signal by the signal processor is variable <u>according to the feedback signal received from the detector</u>.

3.   (Canceled)

4.   (Previously Presented) The system of claim 1, wherein the system comprises one or more components of a digital audio amplifier.

5.   (Currently Amended)   The system of claim 1, wherein the signal processor is configured to modify the input audio signal by clipping <u>one or more values of samples of</u> the input audio signal <u>prior to re-quantizing of the one or more values of samples of the input audio signal</u>.

6.   (Previously Presented)   The system of claim 1, wherein the signal processor is configured to modify the input audio signal by compressing the input audio signal.

7.   (Previously Presented)   The system of claim 6, wherein the signal processor is configured to modify the input audio signal by compressing only a portion of the input audio signal that exceeds a threshold amplitude level.

8.   (Original)   The system of claim 1, further comprising a filter coupled between the detector and the signal processor, wherein the filter is configured to filter the feedback signal of the detector.

9.   (Currently Amended)   The system of claim 8, wherein the ~~clip~~ filter comprises a counter that is incremented for each clock cycle in which the output signal of the clip detector is asserted and that is reset on each clock cycle in which the output signal of the clip detector is not asserted.

10.   (Currently Amended)   The system of claim 9, wherein the ~~clip~~ filter is configured to assert the filtered feedback signal when the counter reaches a threshold level.

11.   (Original)   The system of claim 8, further comprising a flag circuit coupled between the filter and the signal processor, wherein the flag circuit is configured to receive the filtered feedback signal and, if the filtered feedback signal is in an asserted state, to maintain the filtered feedback signal in the asserted state until the flag circuit is reset by the signal processor.

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12.   (Original) The system of claim 1, wherein the clipping condition comprises simple clipping of the audio signal.

13.   (Currently Amended) A method <u>for use in a digital audio amplifier, the method</u> comprising:

 receiving an input audio signal in a noise shaper <u>of the digital audio amplifier, the</u>
   <u>input audio signal including a plurality of samples</u>;

 re-quantizing the input audio signal to produce a processed audio signal;

 shifting quantization noise in the processed audio signal out of an audio band;

 detecting clipping of the input audio signal in the noise shaper<u> when a value of a</u>
   <u>sample of the input audio signal is outside a specified range of values, and not</u>
   <u>detecting clipping when a value of a sample of the input audio signal is within</u>
   <u>the specified range of values</u>; <u>and</u>

 modifying the input audio signal as a function of the detected clipping in response to
   detecting the clipping of the input audio signal.

14.   (Previously Presented) The method of claim 13, wherein modifying the input audio signal comprises modifying the input audio signal in a variable manner.

15.   (Canceled)

16.   (Currently Amended) The method of claim 13, wherein a processed audio signal output by the noise shaper is amplified in [[a]] <u>the</u> digital audio amplifier.

17.   (Currently Amended) The method of claim 13, wherein modifying the input audio signal comprises clipping <u>one or more values of samples of</u> the input audio signal <u>prior to re-quantizing of the one or more values of samples of the input audio signal</u>.

18.   (Previously Presented) The method of claim 13, wherein modifying the input audio signal comprises compressing the input audio signal.

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19.   (Previously Presented) The method of claim 18, wherein modifying the input audio signal comprises compressing only a portion of the input audio signal that exceeds a threshold amplitude level.

20.   (Previously Presented) The method of claim 13, further comprising filtering a feedback signal corresponding to detected clipping, wherein modifying the input audio signal in response to detecting the clipping comprises modifying the input audio signal in response to the filtered feedback signal.

21.   (Original) The method of claim 20, wherein filtering the feedback signal comprises incrementing a counter in response to assertion of the feedback signal and resetting the counter in response to de-assertion of the feedback signal.

22.   (Original) The method of claim 21, wherein filtering the feedback signal further comprises asserting the filtered feedback signal when the counter reaches a threshold level.

23.   (Previously Presented) The method of claim 20, further comprising, if the filtered feedback signal is asserted, maintaining assertion of the filtered feedback signal until the input audio signal is modified in response to the filtered feedback signal.

24.   (Original) The method of claim 13, wherein the clipping condition comprises simple clipping of the audio signal.

25.   (New) A system comprising:
        a noise shaper configured to receive an input audio signal including a plurality of
                samples and perform a noise shaping process including re-quantizing the input
                audio signal to produce a processed audio signal and shifting quantization
                noise in the processed audio signal out of an audio band;
        a detector configured to detect limiting of the input audio signal by the noise shaper
                to a minimum or a maximum value when a value of a sample of the input
                audio signal is outside a range specified by the minimum and maximum

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values, and not detect limiting of the input audio signal to the minimum or the maximum value when a value of a sample of the input audio signal is within the range specified by the minimum and maximum values; and

a signal processor configured to receive a feedback signal indicative of whether limiting of the input audio signal to the minimum or maximum value is detected by the detector;

wherein the signal processor is configured to modify the input audio signal in response to the feedback signal received from the detector.

26.   (New) The system of claim 25, wherein the signal processor is configured to modify the input audio signal as a function of the detected limiting to the minimum or maximum value.

27.   (New) The system of claim 26, further comprising a filter configured to filter the feedback signal prior to the signal processor receiving the feedback signal.

28.   (New) The system of claim 25, wherein the signal processor is configured to modify the input audio signal by limiting one or more values of samples of the input audio signal to the maximum or minimum value prior to re-quantizing of the one or more values of samples of the input audio signal.

29.   (New) A method for use in a digital audio amplifier, the method comprising:
receiving an input audio signal including a plurality of samples;

performing a noise shaping process including re-quantizing the input audio signal to produce a processed audio signal and shifting quantization noise in the processed audio signal out of an audio band;

detecting limiting of the input audio signal by the noise shaping process to a minimum or a maximum value when a value of a sample of the input audio signal is outside a range specified by the minimum and maximum values, and not detecting limiting of the input audio signal to the minimum or the

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maximum value when a value of a sample of the input audio signal is within the range specified by the minimum and maximum values; and

modifying the input audio signal in response to detecting the limiting of the input audio signal.

30.   (New) The method of claim 29, wherein modifying of the input audio signal is a function of the detected limiting of the input audio signal by the noise shaping process.

31.   (New) The method of claim 29, wherein modifying the input audio signal comprises limiting one or more values of samples of the input audio signal to the maximum or minimum value prior to re-quantizing of the one or more values of samples of the input audio signal.